

PATENT APPLICATION

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re application of

Docket No: Q64839

Pascal AGIN

Appln. No.: 09/878,269

Group Art Unit: 2616

Confirmation No.: 2987

Examiner: Bob A. PHUNKULH

Filed: June 12, 2001

For: METHOD OF CONTROLLING TRANSMISSION POWER IN A MOBILE RADIO
SYSTEM

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

MAIL STOP APPEAL BRIEF - PATENTS

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. § 41.37, Appellant submits the following:

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I. REAL PARTY IN INTEREST

The real party in interest is Alcatel Lucent.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

III. STATUS OF CLAIMS

Claims 26-57 are pending in the application. In the final Office action mailed June 7, 2006, the examiner indicated all of claims 26-44 and 49-54 were allowable, rejecting claims 45-48, 55 and 56 over prior art. A Request For Pre-Appeal Brief review was filed on December 7, 2006, and in the Decision mailed December 27, 2006 the panel indicated that for purposes of the appeal all of claims 26-44 and 46-56 were considered allowable and only claim 45 stands rejected. Accordingly:

Claims 26-44 and 46-56 are allowed.

Claim 45 is rejected under 35 USC 102(e) as anticipated by Baker (USP 6,754,505).

Claim 57 was added by amendment filed March 28, 2006, but has not since that time been referred to by either the examiner or the undersigned. It is not indicated as either rejected or allowed in the Final Office action. Nonetheless, since it is dependent on claim 56 considered allowable pursuant to the Panel Decision of December 27, 2006, it is believed that claim 57 is allowed as well.

IV. STATUS OF AMENDMENTS

There were no amendments filed subsequent to the final Office action of June 7, 2006

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The present invention relates to transmission power control. The transmission quality of a channel is monitored, and this actual transmission quality is compared to a target transmission quality, and if it drops below the target value the transmission power can be increased to obtain better transmission quality. A critical feature of such a system is the determination of the level at which the target value should be set. In the discussion hereafter, the result of the comparison of the actual and target transmission quality will be called the “comparison result.” Note that the target value will be adjusted from time to time, and note that, when it is adjusted, this will cause a change in the comparison result. For example, if the transmission quality is at the target value but the target is raised, the transmission quality will now be below the new target, and at the next sampling of the comparison result will be different and the system will call for an increase in the transmission power.

What the present invention does is, when it sees an adjustment being made to the target value, it knows that this adjustment will result in a change in the comparison result at the next sampling. The system could wait for the next sampling of the comparison result and at that time act on it. But according to the present invention, without waiting for the next comparison result, since the system knows the comparison value will change, the system makes an “anticipatory” adjustment of the transmission power. (Transmission power is used by way of example to simplify the discussion, and in fact the anticipatory adjustment can be made to any of the transmission power of the data channel, the transmission power of a control channel, or the offset

of the transmission power of the control channel relative to the transmission power of the data channel.)

The key aspect of the present invention is this “anticipatory” variation, i.e., a variation in anticipation of the variation which will likely be called for at the next sampling.

The sole claim on appeal is claim 45, wherein the mobile station is the user equipment UE Shown in Fig. 6, with the target value variation being, e.g., at ΔSIR in Fig. 4, and the anticipated variations (e.g., $\text{PO}-\Delta\text{SIR}$ in Fig. 4) of at least one of the transmission power of the data channel, the transmission power of the control channel and the offset of the transmission power of the control channel relative to the transmission power of the data channel, to obtain an anticipated variation of the data channel transmission power being also shown in Fig. 4. More particularly, in the left part of Fig. 4, the transmission power of the data channel is P_{DPDCH} , and the transmission power of the control channel is P_{DPCCH} . When a target value variation ΔSIR occurs, P_{DPDCH} and P_{DPCCH} are each reduced by ΔSIR in anticipation of the adjustments to these values which will be called for when the next sampling takes place which will be using the changed target value. On the right side of Fig. 4, the offset of the transmission power of the control channel relative to the transmission power of the data channel is PO , and the anticipatory variation of the transmission power offset is $\text{PO}-\Delta\text{SIR}$. The anticipatory variations are described from line 30 of page 21 through line 19 of page 22. The means for applying is shown at 3 in Fig. 6 and is described beginning at line 26 of page 25 as operating according to the algorithm described beginning at the top of page 23.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The sole grounds of rejection to be reviewed on appeal is the rejection of claim 45 as anticipated by Baker.

VII. ARGUMENT

Baker teaches control of transmission power in accordance with transmitted power control commands. If an actual value is less than a target value, Baker increases the transmission power by a step. Baker recognizes that if there is a large difference between the actual and target values, there will be a large number of step adjustments needed to achieve the desired transmission power adjustment. So when the system sees that a large discrepancy exists between the actual and target values, Baker recognizes that it will take a long time to make the necessary correction, so it will increase the adjustment step size so that fewer adjustments will suffice. But note what is being adjusted. It is the *size* that *will be used* for the next adjustment. In the present invention and in Baker, there is an adjustment to the transmission power if the comparison result calls for it. In the present invention, there is an anticipatory *adjustment to the transmission power* if the target changes. In Baker there is an *adjustment to the next adjustment step size* if the comparison result is too far off.

The examiner refers to lines 1-7 of column 5 of Baker as allegedly teaching the application of anticipatory variations to the *transmission power*. But the passage cited by the examiner contains no such teaching. Baker teaches that if the power level adjustment to be made is large, then the *step size* is increased. But this is not an anticipated variation of the *power level*, it is a variation of the adjustment step size that will be used in the future when an adjustment to the transmission power is needed. The adjustment to the transmission power itself is not made until after the error is first measured.

Thus, the adjustment of the step size is not an anticipated variation of one of the transmission power of the data channel, the transmission power of the control channel and the offset of the transmission power of the control channel relative to the transmission power of the data channel, as is required in the last subparagraph of claim 45.

The examiner argues that claim 45 does not recite that the anticipatory variation is applied before the variable is modified by the control loop. The examiner is apparently ignoring the word “anticipated” in claim 45. It is clear that anyone of ordinary skill in the art would interpret this term to mean that the adjustment is made before the adjustment that will be called for as a result of the use of the new target value. In any event, however, what the claim very clearly does describe is that the anticipated variation is applied *in response to a variation of the target value*. When the target value is varied, the system knows that when the measurement is subsequently made, an error will be found that will require variation of the transmission power. But Baker does not make its modification in response to a variation in the *target value*. The only change made is in response to a detected error amount.

Conclusion –

Claim 45 calls for an adjustment to be made to (a) the transmission power of the data channel (b) the transmission power of the control channel and/or (c) the offset of the transmission power of the control channel relative to the transmission power of the data channel. The adjustment the examiner reads this on is an adjustment to an adjustment step size, but is not in fact an adjustment to any of the three things recited in claim 45. The “adjustment” the examiner refers to is not in response to a target value variation but rather in response to a large detected

difference between the target value and actual value. Finally, the adjustment identified by the examiner does not obtain an anticipated variation of the data channel transmission power. It results in no change at all to the data channel transmission power. When the next adjustment of the data channel transmission power is made, it will be made according to the new step size, but the variation of the step size does not itself cause an anticipated variation of the data channel transmission power.

For any one of the reasons, the rejection of claims 45 fails. For all of these reasons, reversal of the rejection is requested.

Respectfully submitted,

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WASHINGTON OFFICE

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CUSTOMER NUMBER

Date: April 7, 2007

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CLAIMS APPENDIX

CLAIM 45 ON APPEAL:

45. A mobile station wherein a transmission power control algorithm simultaneously controls the transmission power of at least two channels, including a data channel and a control channel, as a function of transmission quality target value, with the transmission power of said control channel offset relative to the transmission power of said data channel, said mobile station comprising:

means for applying, in the event of target value variation, anticipated variations of at least one of the transmission power of the data channel, the transmission power of the control channel and the offset of the transmission power of the control channel relative to the transmission power of the data channel, to obtain an anticipated variation of the data channel transmission power.

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EVIDENCE APPENDIX:

There is no evidence submitted pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132 or any other evidence entered by the Examiner and relied upon by Appellant in the appeal.

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RELATED PROCEEDINGS APPENDIX

There are no decisions rendered by a court or the Board in any proceeding identified about in Section II pursuant to 37 C.F.R. § 41.37(c)(1)(ii).